



Prof. Mohamed Mahmoud

Petroleum Engg. Department, KFUPM

Prof. Mahmoud is a Distinguished University Professor of Petroleum Engineering at KFUPM, Saudi Arabia. He obtained his PhD from Texas A&M University, USA, in 2011. He offered a variety of petroleum engineering courses for students and industry professionals in the region and, as such, has been honored by the Society of Petroleum Engineers and KFUPM. Supervised more than 100 MS and Ph.D. students. His participation in research projects funded by the University and the industry has placed him among the top researchers worldwide in the development of environmentally friendly stimulation fluid for acidizing, acid fracturing, and hydraulic fracturing operations for productivity enhancement of conventional and unconventional reservoirs and has received many Distinguished Research Awards.

Introduction to Petroleum Engineering

Date: October 5-9 2025
Time: 8:00 a.m.-2:00 p.m.
Venue: Qatar University, H-10, Room F-101
Duration: 5 days;
Cost: QAR 8,000

About the course

This five-day course is designed as an introductory overview of various aspects of the petroleum engineering profession. Detailed discussions will be provided on topics including petroleum geology, petroleum exploration, reservoir engineering, drilling engineering, petroleum production engineering, well logging, well completion, enhanced oil recovery, and reservoir simulation.

Course content

1. The Nature of Petroleum
 - Petroleum composition: how is it formed on Earth?
 - Liquid and gas petroleum phases
 - Liquid and gas properties
 - Other associated fluids with petroleum
2. Petroleum Geology and Exploration
 - Petroleum reservoirs and reservoir structures
 - Porosity and permeability of petroleum rocks
 - Requirements for commercial accumulations
 - Methods of reserve estimation
 - Reserve definitions and Methods of petroleum exploration
3. Oil and Gas Drilling
 - Components of the drilling rig and Drilling fluids
 - Drilling vertical and horizontal wells
 - Drilling hydraulics; Offshore Structures
4. Well Logging and Well Completion
 - Well logging tools and methods
 - Well-completion tools and methods
5. Petroleum Production
 - Flow wells, pumped wells
 - Primary, secondary, and tertiary methods
 - Surface facilities in petroleum production
 - Enhanced oil recovery methods
6. Well Test Analysis
 - Draw down and Build up tests
7. Reservoir Simulation
8. Special topics on EOR/EGR and water management in reservoirs

Eligibility criteria

This course is designed for non-petroleum engineers and other technical staff interested in learning more about different aspects of the petroleum profession.

Gas Processing Center Certificate:

All attendees will receive a certificate for attending this training course if they attend for the full four days. A certificate will be awarded to participants who fulfill 80% attendance requirements.



Prof. Ibnelwaleed Hussein

Dr. Ibnelwaleed Ali Hussein is a Research Professor at the Gas Processing Center at Qatar University. Dr. Hussein obtained his PhD from the Chemical and Materials Engineering Department at the University of Alberta, Canada 1999. The title of his PhD thesis was "Molecular Order, Miscibility, and Rheology of Molten Polyethylenes." His PhD Thesis won the Canadian Society of Rheology Graduate Student Award for the year 1999. His specialization is in polymer, Rheology, and Thermal Analysis, with a specific interest in structure-property relationships with a focus on polymer blending and the rheology of complex fluids. Throughout his academic life, Dr. Hussein received many Awards, Scholarships, Prizes, and Nominations at the University of Khartoum, Sudan, the University of Alberta, Canada, KFUPM, Saudi Arabia and Qatar University. Dr. Hussein is actively involved in research in polymers and rheology and their applications in upstream oil and gas, with more than 260 refereed journal articles and 40 US Patents, in addition to different edited books and book chapters. Dr. Hussein is the Associate Editor of the Journal of Petroleum Exploration & Production Technology. He supervised many MS/PhD students at KFUPM and Qatar University. Dr. Hussein has over 25 years of experience and extensive background in the polymer and rheology field. More details about his research publications are available at: <https://scholar.google.com/citations?user=Fsd-bkEAAAAJ>.